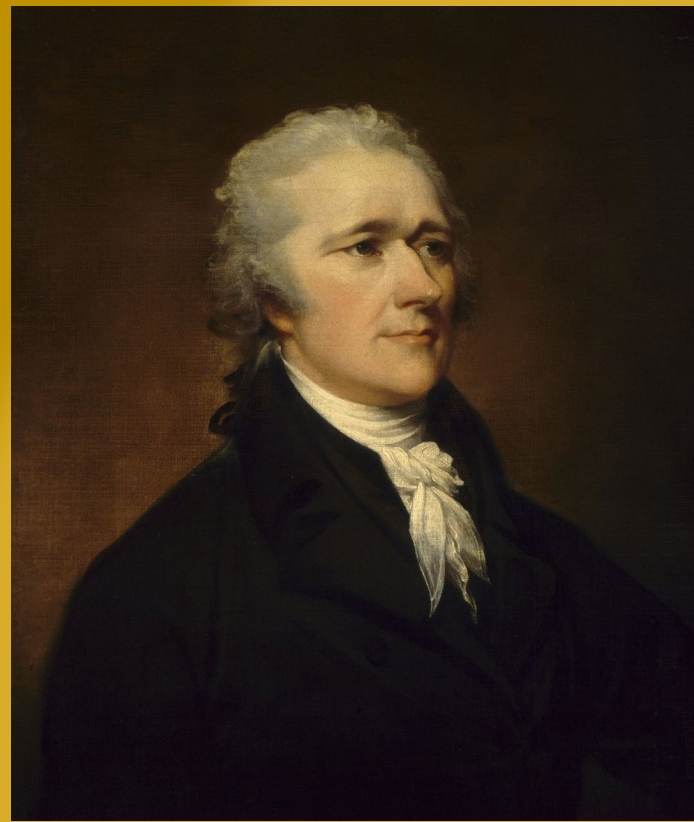


Who Lives, Who Dies, Who Tells Your Story: Topic Modeling Alexander Hamilton

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★ Introduction



Alexander Hamilton: bastard, orphan, immigrant, decorated war vet, treasury secretary. At least, he was considered as such by Aaron Burr's character in *Hamilton: An American Musical*. These descriptions, while a little harsh, are all factually accurate. Hamilton's trademark characteristic, however, reflected both in the musical and in historical documentation, is that he was an avid writer.

In the musical, Aaron Burr constantly asks, "Why do you write like you're running out of time?" In reality, Hamilton's papers are compiled into 27 print volumes. Hamilton's eloquent voice is reflected in each of these pages. This project sought to understand Hamilton as both a historical figure and musical character using the materials where his voice was most prominent: correspondence.

This poster exclusively analyzes Hamilton's letters using two different modes of text mining: topic modeling and concordance analysis. Research questions to consider are: What topics does Hamilton frequently address in his letters? What language does he use in each letter? Does his voice change depending on who his recipient is?

★ Your Obedient Servant

Corpus: Hamilton letters: 3,508, dated 1772-1804

- Considered the years Hamilton was in the American colonies to better reflect the musical's timeline
- Included exclusively Hamilton's personal outgoing correspondence
- Formatted into individual .txt files and labeled according to date and recipient

Methods:

- Distant reading with MALLET: machine-generated word clusters of corpus topics
 - Used command line MALLET to better control the number of topics
 - Generated 38 topic models using various corpus subsets
- Close reading with AntConc: concordance analysis and corpus linguistics practice
 - Considered how strings of words are used in a subset corpus and their significance to the overall corpus
- Data visualization with Microsoft Excel: graphical representation of corpus data
 - Tracked specific topics over the entire corpus for certain recipients

★ Bibliography

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Chernow, Ron. *Alexander Hamilton*. New York: Penguin Press, 2004.

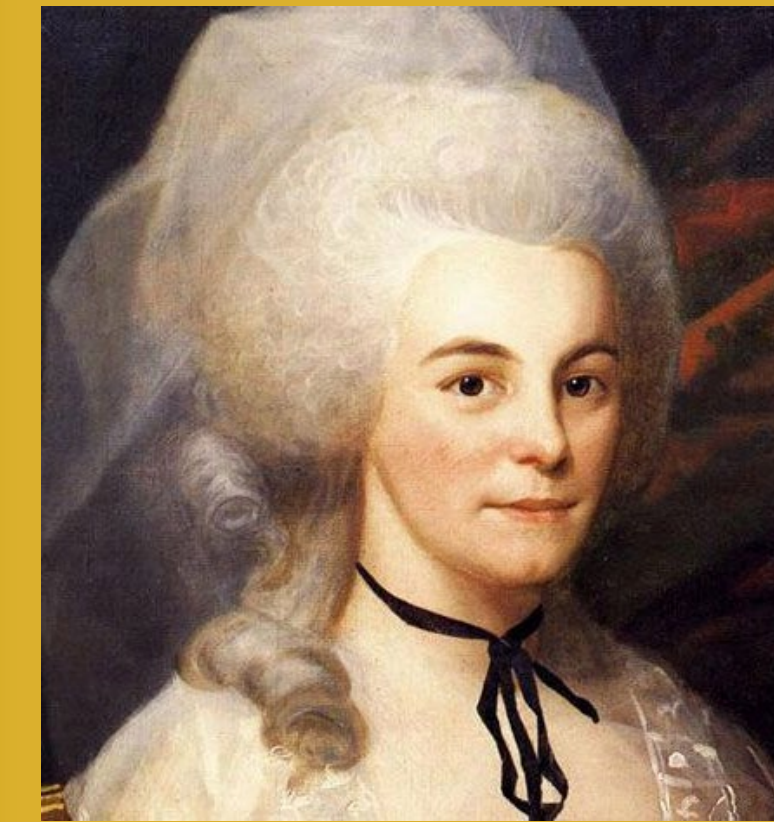
Elizabeth Schuyler Hamilton. 800 x 470 px. *Smithsonian Mag*. https://thumbs-prod.si-cdn.com/u-cc6iG0ynp6ux5TuF8yJV-G5ow=/fit-in/1600x0/https://public-media.si-cdn.com/filer/af/9a/af9a6bbf-519a-48e4-926d-4d8639b245fe/mrs_elizabeth_schuyler_hamilton_web.jpg

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John Laurens. 300 x 300 px. *Famous Birthdays*. <https://www.famousbirthdays.com/faces/laurens-john-image.jpg>

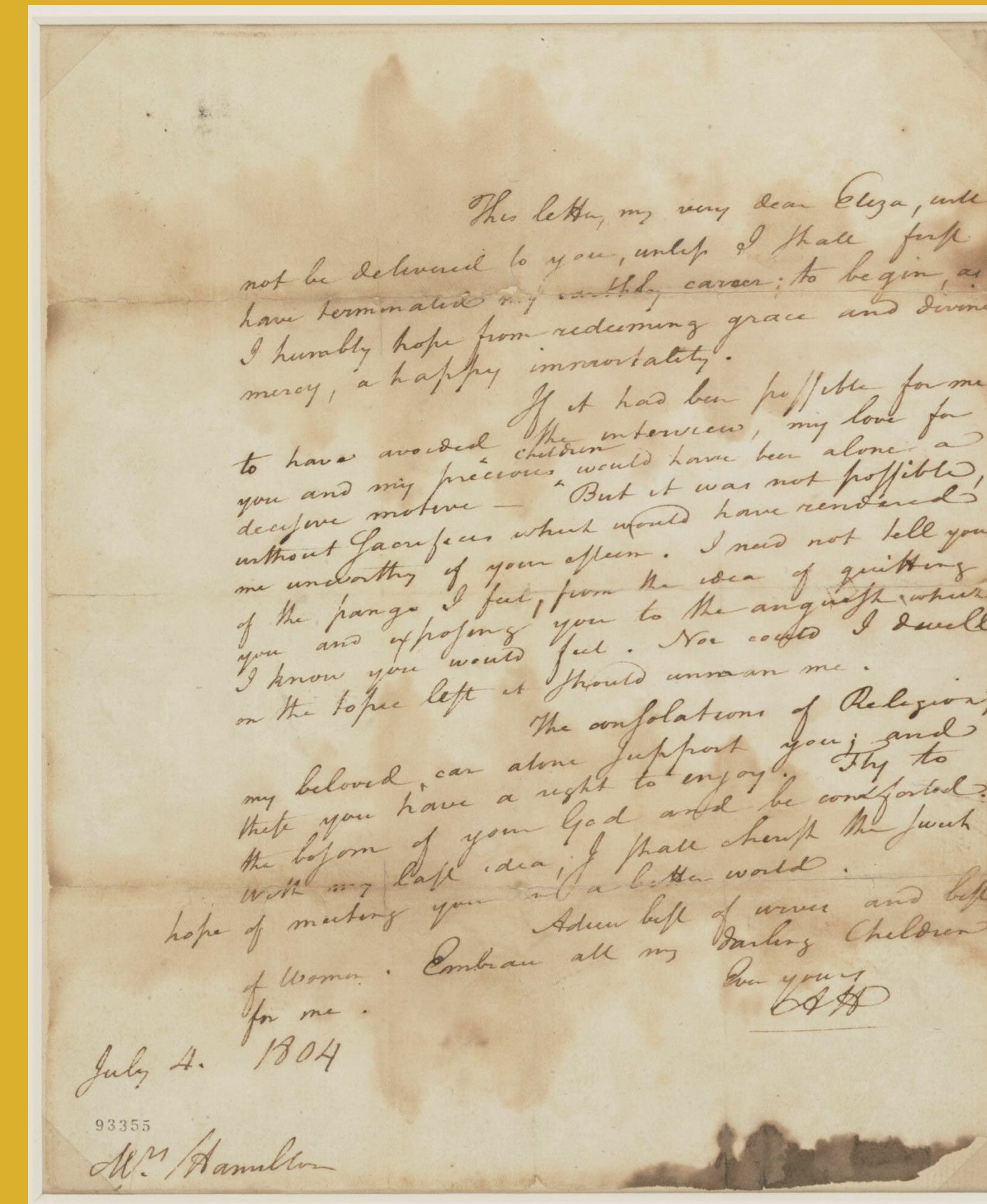
★ Best of Wives, Best of Women



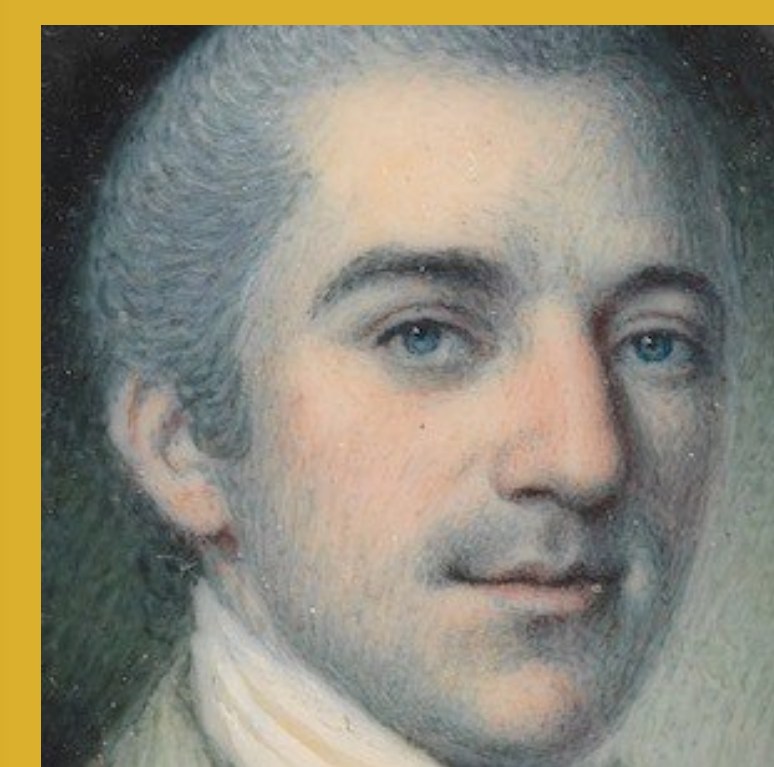
MALLET generated one topic which identified every letter Hamilton wrote to his wife, Elizabeth Schuyler Hamilton. Topic 33 consisted primarily of terms of endearment, language that Hamilton reserved almost

exclusively for Eliza: dear, love, adieu, hope, good, beloved, happy, father, Betsey, Eliza, heart, health, York, give, Mrs, return, make, write, children, and happiness.

The next step involved identifying the most commonly used words Hamilton used in his letters to Eliza and comparing them to the topic model results. That analysis identified love, beloved, Betsey, Eliza, adieu, health, father, heart, angel, children, heaven, Mrs, dear, darling, hope, write, Albany, bosom, journey, and moment as the top 20 most frequently used words, matching almost identically to the results in Topic 33.



★ Laurens, I Like You A Lot



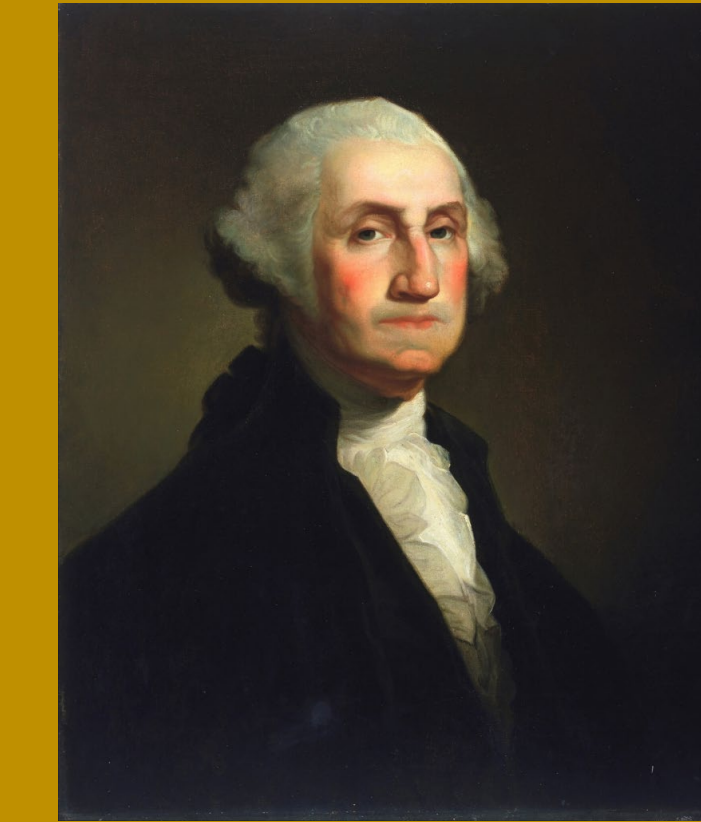
Hamilton only wrote to two other people using affectionate language: Angelica Church, Eliza's older sister, and John Laurens. Laurens was one of Hamilton's closest personal companions during the American Revolution. In their letters, they discuss a variety of topics ranging from slavery, to war, to what Hamilton wanted in a wife.

Analyzing the keyness – a word's frequency in one corpus compared to another corpus - of Hamilton's letters to Laurens in comparison with the larger letter corpus revealed that the word "love," one of the most popular words in the Eliza Hamilton corpus and topic, was a statistically significant positive keyword, meaning that Hamilton used it often in writing to Laurens. He used "love" more than "department" or "Mr," further reflecting their informality. These findings support claims made by historians that Hamilton and Laurens had a homosexual relationship. Ron Chernow, whose Hamilton biography served as the inspiration for the musical, cites that Laurens was the only man whom Hamilton told about his personal life.

“ Hamilton did not form deep friendships easily and never again revealed his interior life to another man as he had to Laurens. He became ever more voluble in his public life but somehow less introspective and revelatory in private. Henceforth, his confessional remarks were reserved for Eliza or Angelica Church. After the death of John Laurens, Hamilton shut off some compartment of his emotions and never reopened it.” *Alexander Hamilton (Chernow 2004), 178.*

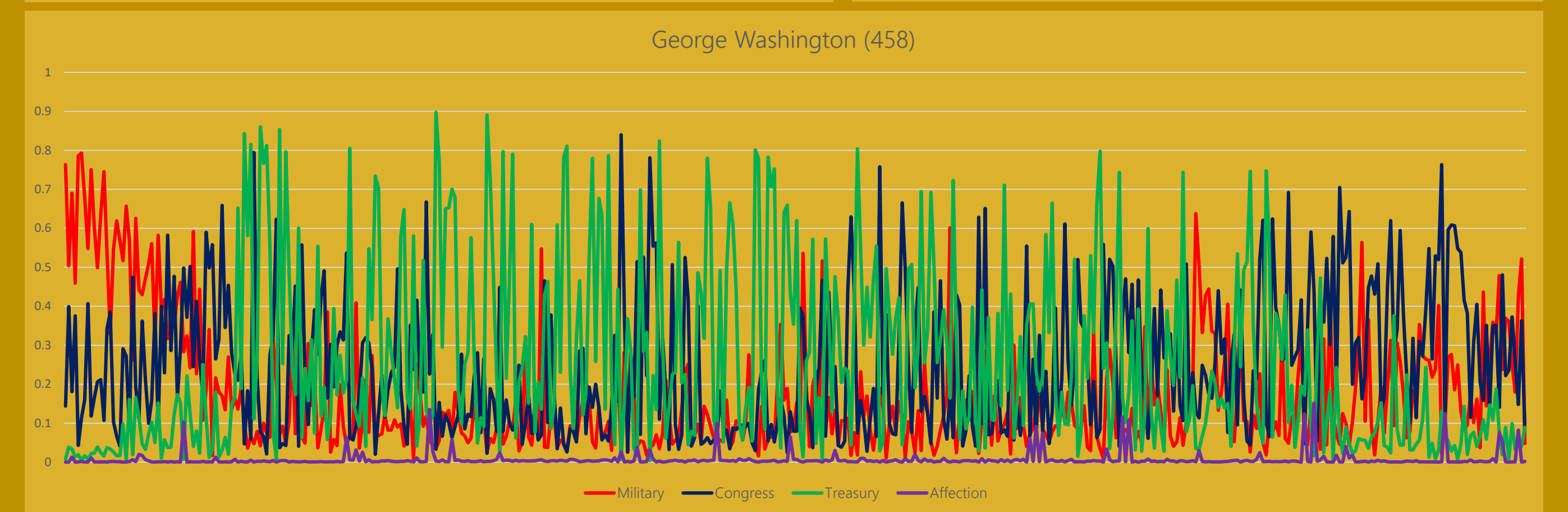
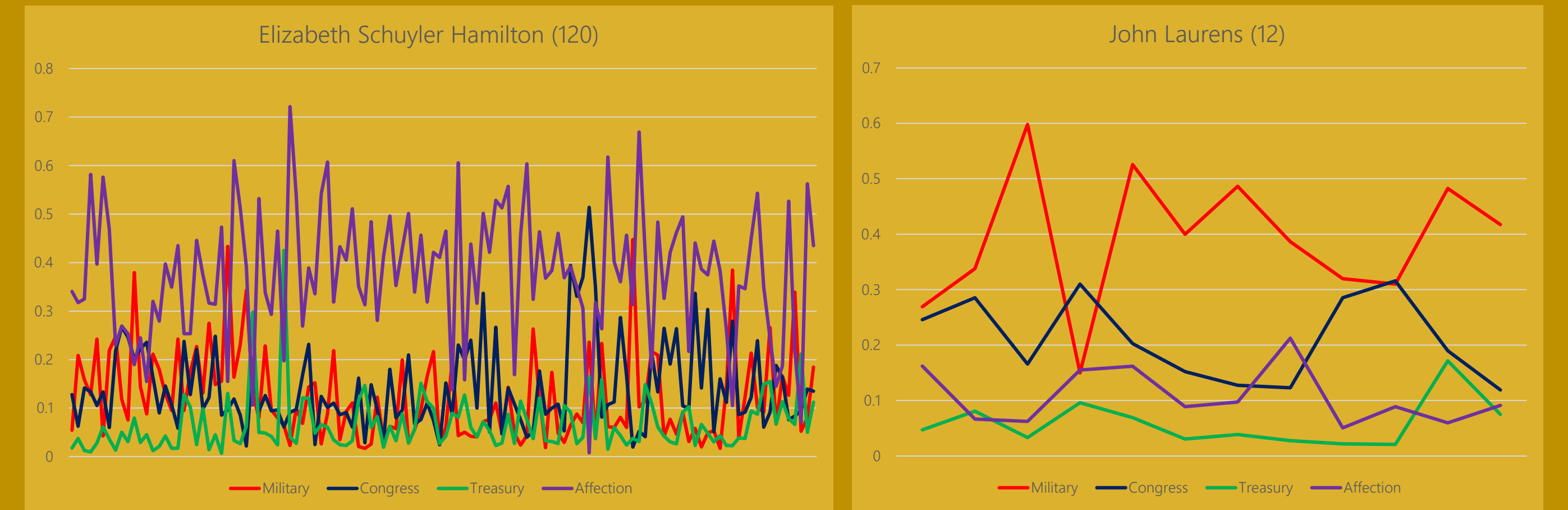
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2	4	+ 18.78	0.0018	die
3	9	+ 19.12	0.0041	henry
4	7	+ 20.14	0.0032	southward
5	4	+ 20.36	0.0018	anderson
6	9	+ 20.42	0.0041	clinton
7	9	+ 20.76	0.0041	world
8	11	+ 21.23	0.0049	west
9	4	+ 21.29	0.0018	vulture
10	6	+ 21.7	0.0028	handsome
11	6	+ 27.16	0.0028	hate
12	8	+ 27.69	0.0037	sake
13	15	+ 29.05	0.0067	love
14	6	+ 30.99	0.0028	robinson
15	6	+ 35.41	0.0028	lads
16	8	+ 35.59	0.0037	flag
17	22	+ 35.77	0.0095	enemy
18	20	+ 40.32	0.0088	friend
19	14	+ 67.6	0.0064	laurens
20	21	+ 114.42	0.0096	andré
21	25	+ 114.92	0.0114	arnold
22	1	- 18.79	0.0004	united
23	7	- 27.22	0.0021	mr
24	1	- 30.91	0.0003	department

★ Right-Hand Man



Tracking topics across the corpus revealed that Hamilton strove to keep his personal and professional life and correspondence separate. Consider 3 of the most important people in Hamilton's life: Eliza, his wife; Laurens, his best friend; and George Washington, his long-term employer. These graphs represent the distribution of topics over the letters to Eliza, Laurens, and Washington. The words in each topic thematically

align with the Military, Congress, the Treasury, and Affection. Eliza's are primarily affectionate, while Washington's are generally professional. Only the letters to Laurens show a combination of affectionate and professional language.



★ What Comes Next?

This project is a prototype for my Digital Humanities specialization capstone project for my dual Library Science and Information Science Master's degrees. The comprehensive capstone project will consider topic models and linguistic analyses of both the Hamilton letters and *Hamilton* musical lyrics.

My immediate next step will be to analyze my previously generated 7 topic models of the musical lyrics (46 songs, separated into .txt files and labeled according to performance order and title).

I will then conduct a comparative analysis between the letters and the lyrics. My preliminary research questions include: How do Alexander's letters correspond with the lyrics from *Hamilton: An American Musical*? Where are the gaps in the narrative? How does the content in the letters reflect the content of the lyrics? It will be interesting to compare the 18th century image of Alexander Hamilton with the 21st century version. Pending comprehensive results, I plan to write an article for publication.